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Occurrence of the Parasitic Isopod *Olencira praegustator* in the Yellowfin Menhaden, *Brevoortia smithi*

Olencira praegustator, a parasitic cymothoid isopod, was described by Latrobe (1802) from Atlantic menhaden, *Brevoortia tyrannus*, captured in the York River, Virginia. Goode (1879) and Ellison (1951) reported a high incidence of this apparently genus-specific parasite in *B. tyrannus* along the southeastern seaboard. Goode (1884) and Richardson (1905) recorded it from the Gulf menhaden, *B. patronus*, a cognate species in the Gulf of Mexico. To our knowledge, however, the occurrence of this parasite has not been documented in the finescale menhaden, *B. gunteri*, or the yellowfin menhaden, *B. smithi*, (Gunter and Christmas, 1960; Hildebrand, 1963).

In March 1965, gill nets fished from the Bureau of Commercial Fisheries R/V *George M. Bowers* caught 101 yellowfin menhaden in St. Joseph Bay, Apalachicola Bay, St. George Sound, and in the Gulf of Mexico off St. George Island, Florida (Figure 1). Of these fish, 66 were parasitized with *O. praegustator* (Table 1).

Most of the parasitized fish contained a single large isopod firmly attached to the gill arches by the dactyli of the last pair of legs and to the roof of the front part of the mouth by the dactyli of the smaller anterior legs (Figure 2); a few fish also contained a small isopod attached to the gill filaments. The rear

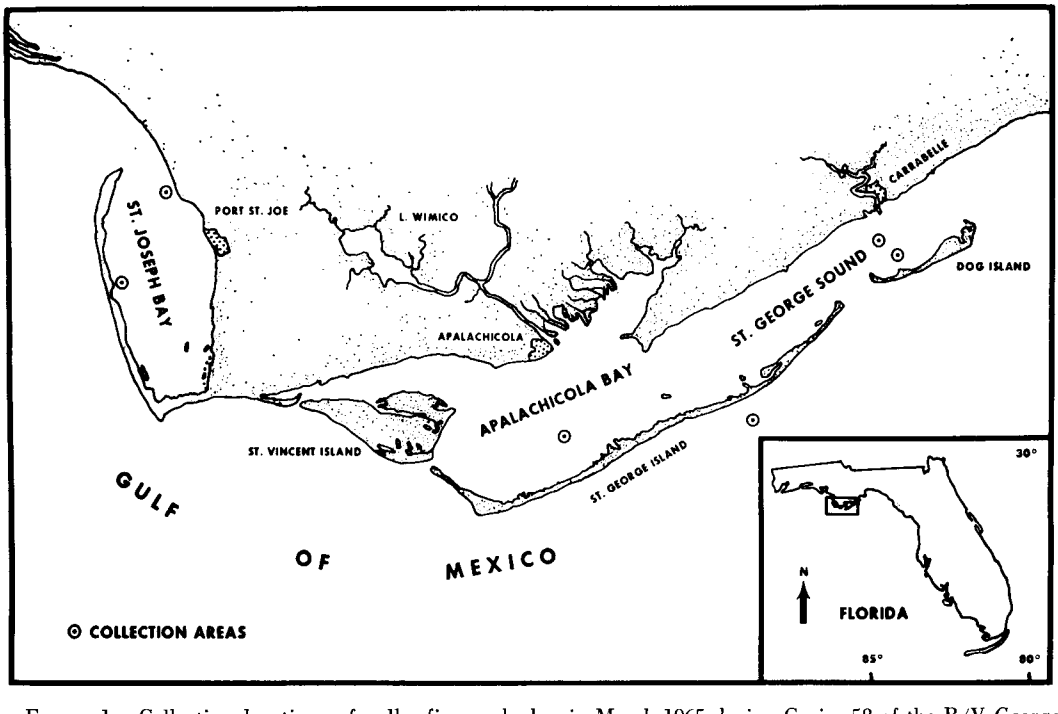

FIGURE 1.—Collection locations of yellowfin menhaden in March 1965 during Cruise 58 of the R/V *George M. Bowers*

TABLE 1.—*Physical data from Cruise 58 of the R/V* George M. Bowers *and incidence of* Olencira praegustator *in the yellowfin menhaden*

Date March 1965	Locality		Surface temperature C	Number of yellowfin menhaden	Number infested
	North latitude	West longtiude			
18	29° 48′	85° 25′	17.8	1	1
19	29° 39′	84° 59′	18.3	11	4
19	29° 40′	84° 47′	16.1	50	31
19	29° 48′	84° 39′	18.3	2	2
20	29° 49′	84° 40′	18.3	34	26
21	29° 51′	85° 20′	16.7	3	2

portion of the large parasite's body assumed a lateral position in the branchial chamber, but the front part was oriented upside down in the oral cavity, giving the parasite a twisted aspect in the host. The fourth, fifth, and sixth pairs of legs, often attached to various sections of the gills, furnished additional support. The isopod occupied most of the oral and branchial cavities, but no external deformation of the mouth, such as that reported by Hildebrand (1963), was discernible. Some of the fishes had suffered a small amount of gill-filament erosion, but the condition of the host did not seem to be affected.

The large isopods were 32 to 43 mm long and 9 to 13 mm across the penultimate (6th and widest) thoracic segment; many were gravid. The small isopods were 7 to 9 mm long and 2 to 3 mm wide (Figure 3).

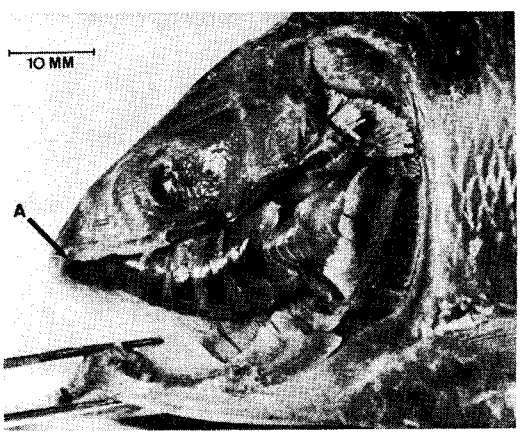

FIGURE 2.—Head of 183-mm yellowfin menhaden with left side of jaws and operculum removed to show position of *Olencira praegustator* in oral and branchial chambers. Arrow A points to head of a 41-mm female isopod and Arrow B to the head of a 7-mm male isopod.

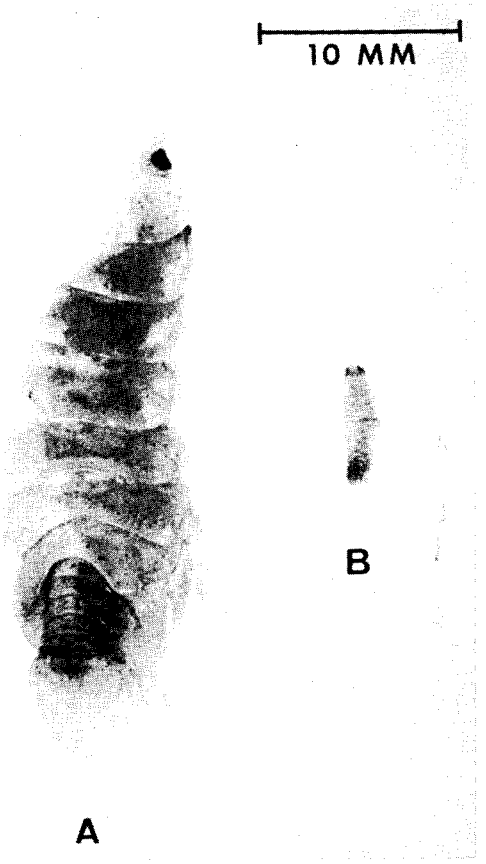

FIGURE 3.—A. Dorsal view of 32-mm female isopod killed in situ and removed from the host. The body distortion conforms to the twisted position of the parasite in the host. B. 7-mm male *Olencira* from the same host.

According to Cheng (1964), cymothoids are sexually dimorphic, the males resembling the young; protandrous hermaphrodites are known among certain genera. The solitary small isopod that occurred in some specimens was surmised to be a male, since young would probably have been present in greater numbers. Whether or not the isopods were protandrous hermaphrodites was not determined.

Parasitism apparently did not vary with size of the fish. Fork lengths of infested fish ranged from 171 to 210 mm, and of uninfested fish from 165 to 210 mm.

Although 770 Gulf menhaden were collected concurrently with the yellowfin menhaden, none harbored the isopod. Possibly these 2

species of fish were segregated when infestation occurred. During the two preceding 1965 months, January and February, 552 non-infested Gulf menhaden, but no yellowfin menhaden, were captured in the same areas. It is also possible that the host-parasite relationship is conspecific rather than congeneric, and closely related but still undescribed *Olencira* are associated with each species of menhaden.

ACKNOWLEDGMENT

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